

REMARKS/ARGUMENTS

Favorable reconsideration of this application, in light of the present amendments and following discussion, is respectfully requested.

Claims 1-42 are pending. No claims are amended or newly added. No new matter is added.

In the outstanding Office Action, Claims 1, 25, 41, and 42 were rejected under 35 U.S.C. § 103(a) as obvious over Midgley (U.S. Patent No. RE 35,751, herein "Midgley") in view of Official Notice. Claims 2-4, 7, 8, 10-12, 18, 19, 22, 26-28, 31, 34, 35, and 38 were rejected under 35 U.S.C. § 103(a) as obvious over Midgley in view of Kawano et al. (U.S. Patent No. 5,012,286, herein "Kawano"). Claims 5, 6, 9, 13, 14, 16, 17, 20, 21, 23, 24, 29, 30, 32, 33, 36, 37, 39, and 40 were rejected under 35 U.S.C. § 103(a) as obvious over Midgley in view of Kawano and further in view of Samuels (U.S. Patent No. 5,937,225, herein Samuels").

Regarding the rejection of Claims 1, 25, 41, and 42 as obvious over Midgley in view of Official Notice, that rejection is respectfully traversed by the present response.

Independent Claim 1 recites:

An image forming apparatus comprising:

an apparatus body;

image forming means at least partly implemented by a replaceable part, which is removably mounted to said apparatus body;

counting means for counting prints sequentially output with the replaceable part;

storing means and first writable and readable nonvolatile storing means built in said apparatus body;

second writable and readable nonvolatile storing means built in the replaceable part; and

control means for storing a limit number of prints particular to the replaceable part in said first nonvolatile storing

means, storing, after an image forming operation, a cumulative number of prints printed by said replaceable part in said storing means at least until the replaceable part is replaced with a different replaceable part and in said second nonvolatile storing means, and reporting a time for replacing said replaceable part when said cumulative number stored in said storing means exceeds said limit number of prints stored in said first nonvolatile storing means.

Accordingly, a storing means and a first writable and readable non-volatile storing means are built in an apparatus body. A cumulative number of prints printed by the replaceable part are stored in the storing means at least until the replaceable part is replaced with a different replaceable part.

In the discussion of Claim 1 in the Response to Arguments section, the outstanding Office Action states:

The argument is that the Midgley reference does not show that there is a storage of the cumulative count of prints made by a replaceable part at least until the replaceable part is replaced.<sup>1</sup>

The outstanding Office Action acknowledges that Midgley does not disclose "storing, after an image forming operation, a cumulative number of prints printed by said replaceable part in said storing means at least until the replaceable part is replaced with a different replaceable part and in said second nonvolatile storing means."<sup>2</sup>

The outstanding Office Action takes Official Notice that "'storing, after an image forming operation, a cumulative number of prints printed by said replaceable part,' is calculated using the addition/subtraction of numbers, which is well-known."<sup>3</sup> The outstanding Office Action then takes Official Notice that "the calculation of a count of prints printed is based upon a simple addition/subtraction formula using the information provided by Midgley."<sup>4</sup>

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<sup>1</sup> Outstanding Office Action, page 2.

<sup>2</sup> Outstanding Office Action, page 4.

<sup>3</sup> Outstanding Office Action, page 5.

<sup>4</sup> Outstanding Office Action, page 5.

Applicants respectfully traverse the assertions of Official Notice taken in the outstanding Office Action. Applicants note that no documentation, either in the form of a cited reference or in the form of an affidavit submitted by the Examiner, has been provided in the outstanding Office Action regarding the statements of Official Notice asserting that the element of storing, after an image forming operation, a cumulative number of prints printed by said replaceable part is well-known and asserting the simplicity of the calculation of the quantity of prints printed by a printer cartridge as recited in independent Claim 1.

Regarding the standard for when taking Official Notice is proper, MPEP § 2144.03(A) states:

As noted by the court in *In re Ahlert*, 424 F.2d 1088, 1091, 165 USPQ 418, 420 (CCPA 1970), the notice of facts beyond the record which may be taken by the examiner must be **"capable of such instant and unquestionable demonstration as to defy dispute"** (citing *In re Knapp Monarch Co.*, 296 F.2d 230, 132 USPQ 6 (CCPA 1961)).<sup>5</sup>

MPEP § 2144.03(B) states:

If Official Notice is taken of a fact, unsupported by documentary evidence, the technical line of reasoning underlying a decision to take such notice must be clear and unmistakable.

The outstanding Office Action asserts that "storing, after an image forming operation, a cumulative number of prints printed by said replaceable part" is well-known. However, Applicants respectfully submit that, although addition and subtraction of numbers in general is well-known, the specific process of calculating the cumulative number of prints and storing the result in the storing means recited in independent Claim 1 is not mere "addition/subtraction." Rather, Claim 1 recites that a particular number, "a cumulative number of prints printed by said replaceable part," is stored in a particular place, the "storing means." The fact that "addition/subtraction" has been done before does not mean the feature of storing "a cumulative number of prints printed by said replaceable part" carries no

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<sup>5</sup> MPEP § 2144.03 citing *In re Ahlert*, 424, F.2d 1088, 1091, 165 USPQ 418, 420 (CCPA 1970) (emphasis added).

patentable weight or that this feature can be accounted for with Official Notice. Instead, just as common components such as cables, motors, and pulleys are arranged in particular ways to form patentable inventions, the feature of "storing...a cumulative number of prints printed by said replaceable part" must be read in relation to the other features recited in Claim 1. Thus, Claim 1 recites that a particular quantity, the cumulative number of prints, is stored in a particular place, the storing means. The fact that the cumulative number of prints is the sum of two numbers does not mean the nature of the quantity is "capable of such instant and unquestionable demonstration as to defy dispute." Accordingly, Applicants respectfully submit that the assertion of Official Notice in the outstanding Office Action should be withdrawn.

Nor is the recited "cumulative number of prints printed by said replaceable part" disclosed by Midgley. In fact, Midgley subtracts a number of copies made in the most recent printing operation from an old image count (Y) to obtain a current image count (Y). A section of Midgley pointed out in the outstanding Office Action states:

The counting system is a decrementing type system with the count Y in memories 90 being decremented as images are made to provide a current image count. **When the current image count Y reaches a termination count which in the example described is zero, the cartridge is rendered unusable.**<sup>6</sup>

Thus, each time prints are made with the cartridge (12, 14, 16), a current image count (Y) is decremented by the number of prints printed in the most recent print run. Therefore, Midgley is calculating a different number than the cumulative number of prints recited in independent Claim 1.

Applicants respectfully submit that the mere description in Midgley of a number of prints (Y) remaining to be printed in a printer, when the remaining number of prints (Y) is systematically decremented, does not correlate to storing a **cumulative number** of prints as

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<sup>6</sup> Midgley, col. 5, lines 43-48 (emphasis added).

recited in independent Claim 1. In other words, the calculation of a number of prints remaining to be printed is different than the calculation of a cumulative number of prints already printed, even if the number of prints remaining to be printed and the cumulative number of prints already printed can each be calculated using the same raw information.

The outstanding Office Action states:

[f]rom the Midgley reference, obtaining this cumulative value of prints is a manipulation of numbers based upon a simple addition formula, that  
[cumulative printed] + [current image count] = total number of prints, Y.<sup>7</sup>

However, Applicants respectfully submit that, as pointed out in the outstanding Office Action at page 5, lines 3 and 4 and also discussed above, the "current image count" represents the number of prints still available to be printed by a printer cartridge, which is Y.

The outstanding Office Action states, "by subtracting the new current image count from Y, one obtains the cumulative number of counts that has been made."<sup>8</sup> However, Applicants respectfully submit that (Y) itself represents the number of prints still available to be made. Thus, when the new current image count (Y) is subtracted from the old image count (Y), one obtains the number of prints made during the most recent printing operation, not the cumulative number of prints that has been made. In other words, the old value of (Y) = (prints available – prints already made). The new value of (Y) = (prints available – prints already made – prints recently made). Thus, subtracting the new (Y) from the old (Y) = (prints available – prints already made) - (prints available – prints already made – prints recently made) = (prints recently made). Thus, once the image count (Y) is decremented even by a single print, it is impossible to calculate a cumulative number of prints using new and old image counts (Y).

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<sup>7</sup> Outstanding Office Action, page 5.

<sup>8</sup> Outstanding Office Action, page 2.

NO REASONABLE COMBINATION OF THE  
CITED REFERENCES RENDERS CLAIM 1 OBVIOUS

The outstanding Office Action states:

Applicants' arguments filed 5/25/06 have been fully considered but they are not persuasive. The argument is that the Midgley reference does not show that there is a storage of the cumulative count of prints made by a replaceable part at least until the replaceable part is replaced.<sup>9</sup>

However, Applicants respectfully submit that the above-quoted statement ignores Applicants' discussion provided in the previous response regarding **where** a cumulative count of prints is stored.

As recited in independent Claim 1, the storing means and first writable and readable nonvolatile storing means are built into the apparatus body. A cumulative number of prints printed by the replaceable part is stored in the storing means at least until the replaceable part is replaced with a different replaceable part. Therefore, the cumulative number of prints is stored in the apparatus body at least until the replaceable part is replaced with another replaceable part.

In contrast, once Midgley calculates a new current image count (Y), Midgley stores the new current image count (Y) in the memory (90) in the **cartridge** (12, 14, 16). Midgley states:

On a print request, machine 10 cycles up and commences to make prints. Control unit 100 counts each time a finished print is detected by print sensor 85 as the finished print passes from fixing station 80 into output tray 86. When the print run is completed and the machine cycles down, the total number of images made during the run, i.e., the image run count, is temporarily stored in RAM 103. Control unit 100 fetches the current image count from the memory 90 of each cartridge 12, 14, 16 and, using the image run count from RAM 103, calculates a new current image count for each memory 90 reflecting the number of images remaining on the cartridge. Control unit 100 then writes the new current image count back

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<sup>9</sup> Outstanding Office Action, page 2.

into the individual memories 90 of each cartridge 12, 14, 16.  
This new count is then verified to insure accuracy.<sup>10</sup>

Accordingly, the control unit (100) writes the new current image count (Y) into the individual memories (90) of each cartridge (12, 14, 16). In other words, to the extent that Midgley stores any value even tangentially related to the number of prints made for a period of time lasting at least until the replaceable part is replaced with a different replaceable part, Midgley performs this storage **in the replaceable part**. The storage of this value is not made in the apparatus body as recited in independent Claim 1.

Furthermore, as noted in Applicants' discussion of the Official Notice taken in the outstanding Office Action, the current image count (Y) is not directly related to the cumulative image count and instead represents the number of prints still available to be made.

The outstanding Office Action states that it would be "a matter of preference" as to which memory to use to store a cumulative number of prints that have been made by the cartridge.<sup>11</sup> However, Applicants respectfully submit that a specific benefit results from placing the device used to store the cumulative number of prints in the apparatus body in that the device used to store this value will remain with the apparatus body even when the replaceable part is discarded. Thus, the storing means used to store a cumulative number of prints printed "at least until the replaceable part is replaced" can be used over and over again with multiple replaceable parts regardless of whether the replaceable parts are eventually destroyed. Thus, the invention recited in independent Claim 1 prevents a portion of the waste associated with discarding depleted replaceable parts. Therefore, it is not merely "a matter of preference" as to where to store the value of the cumulative number of prints for the duration of time at least until the replaceable part is replaced with a different replaceable part. Rather, the invention recited in independent Claim 1 derives at least one specific benefit from the location of the storing means recited in Claim 1. Accordingly, Applicants respectfully submit

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<sup>10</sup> Midgley, col. 6, lines 23-37.

<sup>11</sup> Outstanding Office Action, page 5.

that no reasonable combination of Midgley and the Official Notice taken in the outstanding Office Action would include all of the features recited in independent Claim 1.

Independent claims 25, 41, and 42 recite substantially similar features to those discussed above regarding the rejection of independent Claim 1. Accordingly, Applicants respectfully submit that independent Claims 25, 41, and 42 patentably distinguish over Midgley and the assertion of Official Notice in the outstanding Office Action for at least the same reasons as independent Claim 1 does.

Applicants further respectfully submit that none of the cited references asserted in combination with Midgley against dependent claims remedies the deficiencies discussed above regarding Midgley and the Official Notice taken in the outstanding Office Action.

Kawano describes a printer with a device used to detect the concentration of developing agent inside a toner cartridge. The cartridge itself has no memory that stores any number related to pages. Rather, all the memory described in Kawano is located in the printer body. As the printer cartridge itself cannot store the number of sheets it has processed, any use of the printer cartridge in a second printer results in a discrepancy between the information stored in each of the printers and the true number of prints processed by the printer cartridge. In other words, any memory in the printer described in Kawano will store only the number of prints made by the printer cartridge while in that particular printer. The memory in the printer will not take into account the number of prints made with the printer cartridge in a second printer. Thus, the memory in the printer described in Kawano will not store the cumulative number of prints printed by the particular printer cartridge inserted in the printer. Accordingly, Applicants respectfully submit that Kawano suffers from the same deficiency as discussed above regarding Midgley and the Official Notice taken in the outstanding Office Action.



Samuels describes a method of monitoring toner use in a printer cartridge by counting pixels printed by the cartridge, not prints. Nowhere in Samuels is any memory for counting the number of printed pages produced by the cartridge disclosed. Accordingly, Applicants respectfully submit that independent Claims 1, 25, 41, and 42, as well as Claims 2-24 and 26-40 depending, directly or indirectly, from one of Claims 1, 25, 41, and 42, patentably distinguish over the cited references for at least the reasons discussed above.

Consequently, in light of the above discussion and in view of the present amendments, the present application is believed to be in condition for allowance, and an early and favorable action to that effect is respectfully requested.

Respectfully submitted,

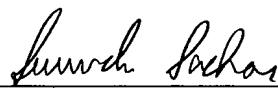
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